

acid has a weight average molecular weight less than or equal to 50,000 g/mole and is in the form of a lithium salt in amount enough for obtaining the 5 wt.% or more concentration of said salt;

- (b) adding hydrogen peroxide and a ferrous salt to the solution prepared in step (a) to oxidatively degrade the high molecular weight polyuronic acid; and
- (c) isolating a polyuronic acid having an average degree of polymerization less than 20 obtained in step (b).
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Claim 4 (amended) The method of Claim 1 wherein the amount of hydrogen peroxide is in the range of 20 to 220 mole percent relative to the polyuronic acid.

Claim 5 (amended) The method of Claim 1 wherein the amount of the ferrous salt is in the range of 0.01 to 10 mole percent relative to the hydrogen peroxide.

Claim 8 (amended) The method of Claim 7 wherein the product polyuronic acids are precipitated from the solution prepared in step (c2) by one or a combination of the following methods:

- (1) lowering the pH by addition of an acid so that the lithium salt of the polyuronic acid is converted into the free form of the polyuronic acid,
 - (2) adding a low molecular weight carboxylic acid,
 - (3) adding a low molecular weight alcohol, or
 - (4) evaporating the liquid phase.
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Claim 13 (amended) The method of Claim 1 wherein step (c) is omitted and the product is obtained as a solution containing polyuronic acids, having an average degree of polymerization less than 20.

Please delete Claim 12.

Please add the following new Claims:

Claim 14 (new) The method of Claim 13, further comprising removing insoluble iron products from the solution.

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Claim 15 (new) A method of producing a polyuronic acid having an average degree of polymerization less than 20, comprising the steps:

(a) providing a solution containing 5 wt.% or more of a high molecular weight polyuronic acid consisting essentially of a 1,4-linked polyuronic acid block and being in the form of a lithium salt in amount enough for obtaining the 5 wt.% or more concentration of said salt;

(b) adding hydrogen peroxide and a ferrous salt to the solution prepared in step (a) to oxidatively degrade the high molecular weight polyuronic acid; and

(c) isolating a polyuronic acid having an average degree of polymerization less than 20 obtained in step (b).

wherein the step (c) comprises:

(c1) separating the solution containing the product polyuronic acids from insoluble

iron products;

(c2) precipitating the product polyuronic acids from the solution prepared in step (c1);
and

(c3) separating the precipitated polyuronic acids from the mixture prepared in step
(c2); and

wherein the product polyuronic acids are precipitated from the solution prepared in
step (c2) by one or a combination of the following methods:

(1) lowering the pH by addition of an acid so that the lithium salt of the
polyuronic acid is converted into the free form of the polyuronic acid,

(2) adding a low molecular weight carboxylic acid,

(3) adding a low molecular weight alcohol, which is one or more selected from
the group consisting of methanol, ethanol, n-propanol, and isopropanol, or

(4) evaporating the liquid phase.

Claim 16 (new) The method of Claim 15 wherein the acidic solution of step (a) has a
pH value less than or equal to 5.0 or a pH value at which greater than or equal to 90%
of the high molecular weight polyuronic acid is solubilized.

Claim 17 (new) The method of Claim 15 wherein the hydrogen peroxide is added as
an aqueous hydrogen peroxide solution.

Claim 18 (new) The method of Claim 15 wherein the amount of hydrogen peroxide is
in the range of 20 to 220 mole percent relative to the high molecular weight

polyuronic acid.

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cont

Claim 19 (new) The method of Claim 15 wherein the amount of the ferrous salt is in the range of 0.01 to 10 mole percent relative to the hydrogen peroxide.

Claim 20 (new) The method of Claim 15 wherein the reaction in step (b) is an exothermic reaction and after completion of the exothermic reaction step (c) is implemented.

Claim 21 (new) The method of Claim 15 wherein after addition of an acid the lowered pH value is less than or equal to 3.3.

Claim 22 (new) The method of Claim 15 wherein the low molecular weight carboxylic acid is acetic acid, propionic acid or a mixture thereof.

Claim 23 (new) The method of Claim 15 wherein step (c) is omitted and the product is obtained as a solution containing polyuronic acids, having an average degree of polymerization less than 20.

Claim 24 (new) The method of Claim 23, further comprising removing insoluble iron products from the solution.
